

## Module 8: Mental Health and Urban Agriculture

### GOALS AND OBJECTIVES:

Nature-deficit disorders, defined as health disorders caused by decreased access to nature and the outdoors, can include ADHD, stress, anxiety, and depression.<sup>1</sup> These disorders can occur in children as a result of little to no connection to nature.<sup>1</sup> Children that live in cities experience more nature-deficit disorders because they grow up in areas that have low biodiversity and don't get the same exposure to nature as other children.<sup>1</sup> Beyond these negative health outcomes, children that grow up without exposure to nature may begin to fear it and will ultimately care less about protecting the environment.<sup>1</sup> Gardening or interacting with nature is a great way for children to prevent or combat nature-deficit disorders.

In this module, students will learn about their emotions and understand how emotions change without a connection to nature. Students will also explore mindfulness techniques practiced in nature or the garden to understand how their emotions and feelings change when they get outside. Students will reflect on their experiences within nature and the impacts on their mental health. Lastly, students will learn about the various aspects of healing gardens and gain an understanding of plants that promote healing.



**TIME:** 1 hour 30 minutes – 2 hours

### MATERIALS:

- Paper (for Activity #1 and Activity #3)
- Pencils
- Colored pencils or crayons
- Module 8 Student Handouts
- Whiteboard and markers



## TEACHER BACKGROUND:

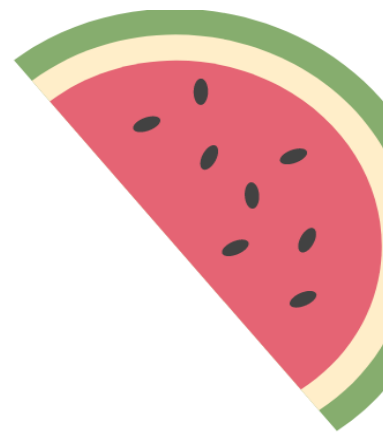
Gardening and interacting with nature can be beneficial to one's mental health. Gardening is enjoyable for many people because it provides stress relief while also increasing social interactions.<sup>2</sup> Green care therapy, prescribed by doctors, involves intentional exposure to nature to improve mental health. Studies have demonstrated that hospital patients or those experiencing mental health struggles improve when they have some sort of interaction with nature, be it via gardening or walking outside.<sup>3</sup> One study, performed in Japan, found that looking at plants changed EEG readings and demonstrated reductions in stress, depression, and other negative emotions.<sup>3</sup>

Gardening is beneficial to a person's overall health for several reasons. First, the physical requirements in the garden can improve a person's strength, agility, or aerobic abilities especially if a person is recovering from an illness.<sup>3</sup> Second, community or school gardens can help children to come out of social isolation if they have poor mental health or a learning disability.<sup>3</sup> Additionally, gardening can help a child develop better self-esteem. They can witness their accomplishments from their hard work of growing a seed into a plant, or even into a food on their plate.<sup>4</sup>

## OPENING DISCUSSION:

Ask your students the following questions to generate discussion on this topic and get the lesson started.

- *What do you enjoy about nature?*
- *How do you feel when you are outside? Do you feel differently if you are outside in a parking lot versus outside in a forest or park?*
- *Do you ever feel anxious or unhappy if you have not been outside or connected with nature in a while?*
- *Can you describe some of the negative emotions you may feel?*



## ACTIVITY #1: NONVIOLENT COMMUNICATION



**TIME:** 15 minutes

### MATERIALS:

- Paper and Pencils
- Whiteboard and markers

### TEACHER BACKGROUND

Nonviolent communication (NVC) is a method that will help students to understand their feelings and express themselves more clearly.<sup>4</sup> NVC can help children and teens learn how to communicate effectively and develop improved self-awareness.<sup>4</sup> This form of communication helps people to become more aware of their feelings so that they can communicate deeply with others. In return, the hope is that student's peers will respond in a deeper, more empathetic way. Read [this optional article](#) to learn more about NVC.

### LESSON:

1. Ask students to think about a time when they did not connect with nature for a while and list one of the negative feelings that they had. Here are a few examples to get the conversation started:
  - *During winter when you cannot go outside for a long time, how does that make you feel?*
  - *If you are sick and can't go outside, how do you feel?*
2. Ask students to answer these questions on a piece of paper individually about the distinct feeling they had after they did not connect with nature.
  - *What was the situation you were in when the feeling occurred?*
  - *What was the distinct emotion that you felt?*
  - *What was causing the emotion?*
3. Write out each of the following questions on a whiteboard individually and then ask students to answer the questions. Write some of the answers on the board.
  - *When you have a negative feeling do you ever blame yourself?*
  - *When you have a negative feeling do you blame others?*
  - *Instead of placing blame, how can you see your own feelings and needs?*
  - *How can you see others' feelings and needs?*



## ACTIVITY #2: MINDFULNESS IN THE GARDEN



**TIME:** 15-30 minutes

### MATERIALS:

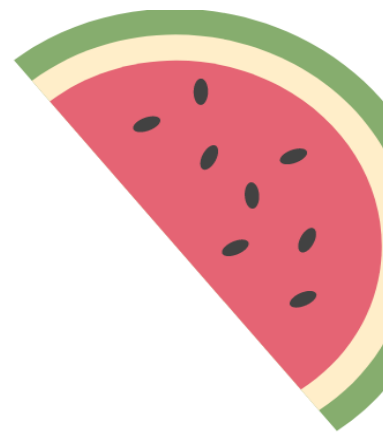
- Outside environment or garden

### PREP

- Think of additional mindfulness questions to ask students
- Choose an outside environment for students to complete the activity

### LESSON:

1. Ask students to compare their emotions when they are inside and outside. In the classroom, have students sit facing a wall without windows silently for 5 minutes.
  - *Describe how you felt when you were inside.*
2. Outside, ask students to sit silently for another 5 minutes.
  - *Describe how you felt when you were outside.*
  - *Was it more difficult to sit silently inside than outside?*
3. Ask the students to select an outdoor area to observe in the garden or in a park. Next, have the students individually and silently observe their surroundings and the environment for a few minutes.
4. Ask the students a few guiding questions while they are making their observations. Allow them time to think about each question.
  - *What do you feel?*
  - *What do you hear?*
  - *What do you smell?*
  - *What do you see?*
  - *What colors do you see?*
  - *Choose your favorite plant and observe its colors, shapes, smells, etc.*
5. Give the students some time to reflect silently on their own. Then, discuss with the students some of their observations.
  - *How did you feel before the exercise compared to after the exercise?*
  - *What things stood out to you in the garden or outside environment?*
  - *Did you observe any changes to the environment during the exercise?*



## ACTIVITY #3: HEALING GARDEN



**TIME:** 30+ minutes

### MATERIALS:

- Colored pencils or crayons
- Paper for the students to color on
- Student Handouts
  - Activity #3 Healing Garden Descriptions (page 1)

### TEACHER BACKGROUND

Healing gardens are designed to purposefully benefit the people that are interacting with the garden. A healing garden may include medicinal plants that help to combat anxiety or other disorders.<sup>5</sup> Additionally, healing gardens may include sensory plants, or aspects to promote physical activity.<sup>5</sup>

### PREP:

- Print out Activity #3: Healing Garden Aspects List on page 1 in the Student Handouts.

### LESSON:

1. In this activity, the students will be creating sketches of their dream healing garden.
2. Teachers will introduce students to the many different aspects of the healing garden and their important benefits.
  - Sensory plants can be included in the garden to stimulate all the senses and comfort those who need healing.
  - See Student Handout (page 1) to learn more about sensory plants.
  - Plants that attract wildlife will engage those who need healing and can help children learn more about different animals.
  - Digging beds allow children to become more active so that they can relax their mind and have fun digging.
  - Sitting areas can provide children with a space to socially engage with their peers while they are outside.



3. Ask the students questions about what they want to include in their garden.
  - *What do you want the healing garden to help you with?*
  - *What do you want to do in your dream healing garden?*
  - *Do you want your plants to produce food?*
  - *Do you want plants that have vibrant colors or smell good?*
  - *Do you want plants that attract animals or bugs?*
4. Give students paper and colored pencils to draw some aspects of the healing garden that they would like to create.
5. Have students discuss with each other in small groups the reasons they chose to include each aspect of the healing garden.

## ACTIVITY #4: HEALING GARDEN MATCHING GAME



**TIME:** 15 minutes

### MATERIALS:

- Student Handouts
- Activity #4 Matching Cards (pages 3-5)
- Scissors

### PREP:

- Cut out matching cards on pages 3-5 in the Student Handouts.

### LESSON:

1. Students will demonstrate what they have learned about healing gardens and their benefits with this fun matching game. Once the cards are printed and cut out, allow students to work in pairs or independently to determine which picture matches the description of the aspect within the healing garden.
2. Once the students complete the activity, read each of the descriptions and call on one student to provide the correct answer to the matching game.

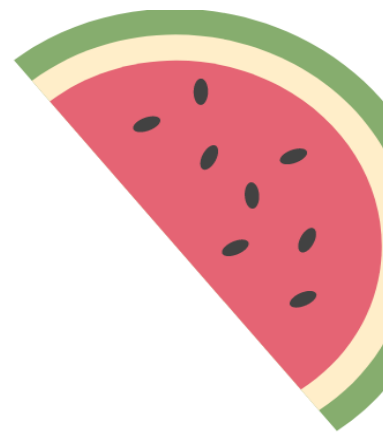
## CONNECTING TO THE GARDEN



**TIME:** variable, 15+ minutes

### LESSON:

1. In this part of the lesson, choose a garden in the community or at school to allow students to reflect on what they have learned about healing gardens in the previous two lessons.
2. Ask students to observe some of the brightly colored plants in the garden.
  - *How do colorful plants make you feel?*
  - *Why are colorful plants important in a healing garden?*
3. Ask students to look for plants that smell good or are fun to touch.
4. Have students search for some plants that are attracting bees or butterflies.
  - *Do these plants have bright colors?*
  - *Do these plants smell good?*
  - *How does it make you feel to see butterflies and bees interacting with the plants?*
5. Search for a place in the garden that can promote physical activity. Physical activity is great for mental health and gardening requires some physical activity.
  - *Is there a place where people can dig in the dirt? Does the garden have space for walking or moving around?*
  - *Why is physical activity important for mental health?*
  - *How does physical activity make you feel afterwards?*
6. Planting food crops is a great way to improve mental health because it gets rid of a lot of worry surrounding food insecurity. Adding food crops to the garden can help students to understand that they can become more independent from needing to purchase food.
  - *Would you include food crops in your healing garden?*





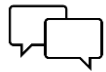
- *What do you think are some of the ways that adding food crops to a healing garden can help to improve mental health?*

Examples:

- Decreases stress about where to obtain food.
- Improve independence and autonomy.

7. End the activity with a short discussion about the importance of a healing garden.

- *What are some the benefits that healing gardens provide?*
- *Why is it important to include some of the healing garden aspects into a regular garden?*

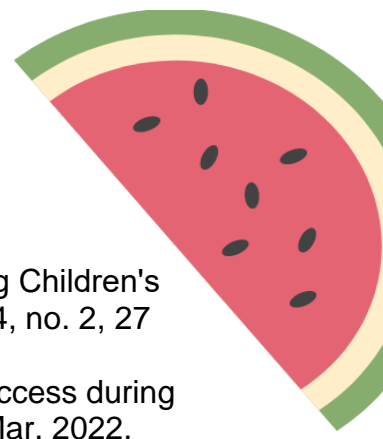


### **CLOSING DISCUSSION:**

Finish the lesson with a discussion to make sure that the students can tie all activities together from this module.

- *How can you spend more time with nature and in the garden? Do you think this would improve your mental health?*
- *Did the mindfulness activity help you to feel better afterwards?*
- *Which part of the healing garden was your favorite to learn about?*





## REFERENCES:

1. Hand, Kathryn L., et al. "The Importance of Urban Gardens in Supporting Children's Biophilia." *Proceedings of the National Academy of Sciences*, vol. 114, no. 2, 27 Dec. 2016, pp. 274–279., <https://doi.org/10.1073/pnas.1609588114>.
2. Dooley, Emily C. "People Turned to Gardening for Stress Relief, Food Access during Pandemic." *College of Agricultural and Environmental Sciences*, 17 Mar. 2022, <https://caes.ucdavis.edu/news/people-turned-gardening-stress-relief-food-access-during-pandemic>.
3. Thompson, Richard. "Gardening for Health: A Regular Dose of Gardening." *Clinical Medicine*, vol. 18, no. 3, June 2018, pp. 201–205., <https://doi.org/10.7861/clinmedicine.18-3-201>.
4. "Nonviolent Communication (NVC)." *Therapy for Nonviolent Communication, Therapist for Nonviolent Communication*, GoodTherapy, 3 Aug. 2018, <https://www.goodtherapy.org/learn-about-therapy/types/non-violent-communication>.
5. "Design a Healing Garden." *KidsGardening*, 13 Dec. 2021, <https://kidsgardening.org/resources/garden-activities-design-a-healing-garden/>.

### Activity 1:

Adapted from: "Applicable Activities for NVC." *Nonviolent Communication*, <https://users.pfw.edu/lind/activities.html>.

### Activity 2:

Adapted from: "Mindfulness in the Garden." *KidsGardening*, 4 May 2022, <https://kidsgardening.org/resources/garden-activities-mindfulness/>.

### Activity 3:

Adapted from: "Design a Healing Garden." *KidsGardening*, 13 Dec. 2021, <https://kidsgardening.org/resources/garden-activities-design-a-healing-garden/>.

### Activity 4:

Adapted from: "Design a Healing Garden." *KidsGardening*, 13 Dec. 2021, <https://kidsgardening.org/resources/garden-activities-design-a-healing-garden/>.

"Sensory Garden Plants." *KidsGardening*, 22 June 2022, <https://kidsgardening.org/resources/growing-guide-sensory-garden-plants/>.

"7 Design Elements of a Healing Garden." *Frontier Landscaping*, 28 Apr. 2023, <https://frontierlandscaping.com/seven-design-elements-of-a-healing-garden/>.